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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,291	03/04/2002	Leonel Ernesto Enriquez	50136SE1764TL	6622

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EXAMINER	
BRINEY III, WALTER F	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,291	ENRIQUEZ ET AL.	
	Examiner	Art Unit	
	Walter F Briney III	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takato et al. (US Patent 4,631,366).

Claim 15 is limited to **a circuit arrangement for limiting the DC voltage applied to a tip and ring amplifiers of a subscriber line interface circuit (SLIC)** (figure 6, elements A_0, A_1), **each having a first polarity input** (figure 6, element A_0/A_1, plus terminal) **thereof coupled to a first current flow path to which a DC input voltage is coupled**. Takato discloses **a first current source** (figure 6, element Tr_0) **that is operative to supply, to a second polarity input node of said tip amplifier** (figure 6, element A_0, minus terminal), **a first current derived in accordance with that flowing through said first current flow path** (figure 6, path from Ra_0 through Ra_1). Takato discloses **a second current source** (figure 6, element Tr1) **that is operative to supply, to a second polarity input node of said ring amplifier** (figure 6, element A_1, minus terminal), **a second current derived in accordance with that flowing through said first current flow path** (figure 6, path from Ra_0 through Ra_1). Takato discloses **a voltage regulator** (figure 6, element IV) **coupled with said first current flow path and being operative to regulate the voltage at said first polarity input of said**

tip/ring amplifier (figure 6, elements A_0/A_1, plus terminal) **to a regulated voltage value Vreg** (i.e. $-V_{BB}/2$) (column 5, lines 65-67), **so that the magnitudes of said first and second currents supplied by said first and second current sources, respectively, are based upon said regulated voltage value Vreg** (i.e. $-V_{BB}/2$), **irrespective of said DC input voltage** (figure 6, element $-V_{BB}$) **exceeding said regulated voltage value Vreg** (column 5, line 61-column 6, line 5). Therefore, Takato anticipates all limitations of the claim.

Claim 16 is limited to **the circuit arrangement according to claim 15**, as covered by Takato. Takato discloses **first and second low-pass filters** (figure 6, element Rs_0, C_0 and Rs_1 C_1) **respectively coupled with said first and second current sources** (figure 6, elements Tr_0 and Tr_1) **and being operative to pass DC supply energy** (i.e. DC blocking capacitors prevent DC from shunting to ground) (column 6, lines 40-41) **and prevent noise** (i.e. differential-mode voltage introduced into battery $-V_{BB}$) **from being introduced into the voice paths of said tip and ring amplifiers** (column 6, line 26-column 7, line 15). Therefore, Takato anticipates all limitations of the claim.

Claim 17 is limited to **the circuit arrangement according to claim 15**, as covered by Takato. Takato discloses **a voltage divider** (figure 6, elements Ra_0, Rb_0, Rb_1, Ra_1) **to an input terminal of which said DC input voltage is applied** (figure 6, element $-V_{BB}$). Takato also discloses **a voltage dividing node** (figure 6, element M_2) **of which said first polarity inputs of said tip and ring amplifiers are coupled** (figure 6, elements A_0/A_1, plus terminals). Takato discloses that **said voltage regulator** (figure

6, element IV) **is coupled to said input terminal of said voltage divider** (figure 6, element IV connected to $-V_{BB}$ through Rb_1 and Ra_1). Therefore, Takato anticipates all limitations of the claim.

Claim 18 is limited to **the circuit arrangement according to claim 17**, as covered by Takato. Takato discloses **first and second current sources** (figure 6, elements Tr_0 and Tr_1) that produce **a first and second current** and are controlled by amplifiers A0 and A1, the amplifiers are controlled by currents between M_2 (i.e. **voltage dividing node**), Ground (i.e. **reference node**), and $-V_{BB}$. Therefore, Takato anticipates all limitations of the claim.

Claim 19 is limited to **the circuit arrangement according to claim 15**, as covered by Takato. Takato discloses **a voltage divider** (figure 6, elements Ra_0, Rb_0, Rb_1, Ra_1) **to an input terminal of which said DC input voltage is applied** (figure 6, element $-V_{BB}$). Takato also discloses **a voltage dividing node** (figure 6, element M_2) **of which said first polarity inputs of said tip and ring amplifiers are coupled** (figure 6, elements A_0/A_1, plus terminals). Takato discloses that **said voltage regulator** (figure 6, element IV) **is coupled to said voltage dividing node of said voltage divider** (figure 6, element IV connected to M_2). Therefore, Takato anticipates all limitations of the claim.

Claim 20 is essentially the same as claim 18 and is rejected for the same reasons.

Claims 1-6 are essentially the same as claims 15-20, respectively, and are rejected for the same reasons.

Claims 8-13 are essentially the same as claims 15-20, respectively, and are rejected for the same reasons.

Claim 14 is limited to **the circuit arrangement according to claim 13**, as covered by Takato. **further including a low-pass filter** (figure 6, element Rs_0, C_0) **coupled with said current source** (figure 6, element Tr_0) **and being operative to pass DC supply energy** (i.e. DC blocking capacitors prevent DC from shunting to ground) (column 6, lines 40-41) **and prevent noise** (i.e. differential-mode voltage introduced into battery $-V_{BB}$) **from being introduced into the voice path of said tip/ring amplifier** (column 6, line 26-column 7, line 15). Therefore, Takato anticipates all limitations of the claim.

Claim 7 is essentially the same as claim 14 and is rejected for the same reasons.

Response to Arguments

Applicant's arguments with respect to claims 1-20, filed 17 May 2004, have been fully considered but they are not persuasive.

With respect to claim 15, the applicant alleges that Takato does not disclose **tip/ring drivers** (paper 4, page 9, fourth paragraph); the examiner respectfully disagrees. In particular, TIP/RING drivers are understood to one of ordinary skill in the art as amplifier circuits that provide output current to a TIP and RING pair. Takato discloses two amplifiers. The amplifiers comprise an input stage (figure 6, A_0, A_1) and an output stage (Tr_0, Tr_1). While the exact words TIP and RING are not in the Takato reference, Takato discloses that the driver circuitry is meant for battery feed of a

subscriber loop (i.e. TIP/RING pair). If the device of Takato does not include tip/ring drivers, it follows that the current application does not disclose tip/ring drivers as both supply operational battery current to a subscriber line. Therefore, all arguments relying on Takato not disclosing tip/ring drivers are false.

The applicant further alleges that Takato does not disclose a **voltage regulator** (page 10, second paragraph); the examiner respectfully disagrees. In particular, Takato discloses that the intermediate voltage, measured at point M2 of figure 6, is stabilized at $V_{BB}/2$ (column 5, lines 21-68). To one of ordinary skill in the art, this is known as voltage regulation. Therefore, all arguments relying on Takato not disclosing a voltage regulator are false.

Now with respect to claim 16, the applicant alleges that the filters disclosed by Takato are **high-pass filters, not low pass filters** (page 12, paragraph 2); the examiner respectfully disagrees. In particular, Takato disclose filter structures Rs_0, C_0 and Rs_1, C_1. While the description says that they are designed to provide negligible impedance to AC currents (column 6, lines 35-41) this does not make them high-pass filters. It is clear that the negligible impedance means that AC signals are shunted away from the feedback path of battery feeding amplifiers A_0 and A_1. This is the desired low-pass effect. It prevents line noise from appearing upon the subscriber loop.

With respect to claim 17-20, the applicant alleges that because Takato fails to disclose TIP/RING drivers and a voltage regulator, Takato fails to meet all limitations of the claims (page 12, paragraph 3 through page 13, paragraph 5); the examiner

respectfully disagrees. As shown above apropos claim 15, Takato does indeed disclose TIP/RING drivers and a voltage regulator.

Claims 1-6 and 8-14 are essentially the same as the preceding claims, and the rejections are maintained for the same reasons presented above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
7/20/04

XU MEI
PRIMARY EXAMINER